ZEISS CONTURA®

NEW

Prepared for all challengers - today and tomorrow

ZEISS CONTURA® series: Regenerated new generation CMM capable of performing all types of contact and non-contact measurement

Versatility
+
Durabiliy
+
Reliability
+
Usability

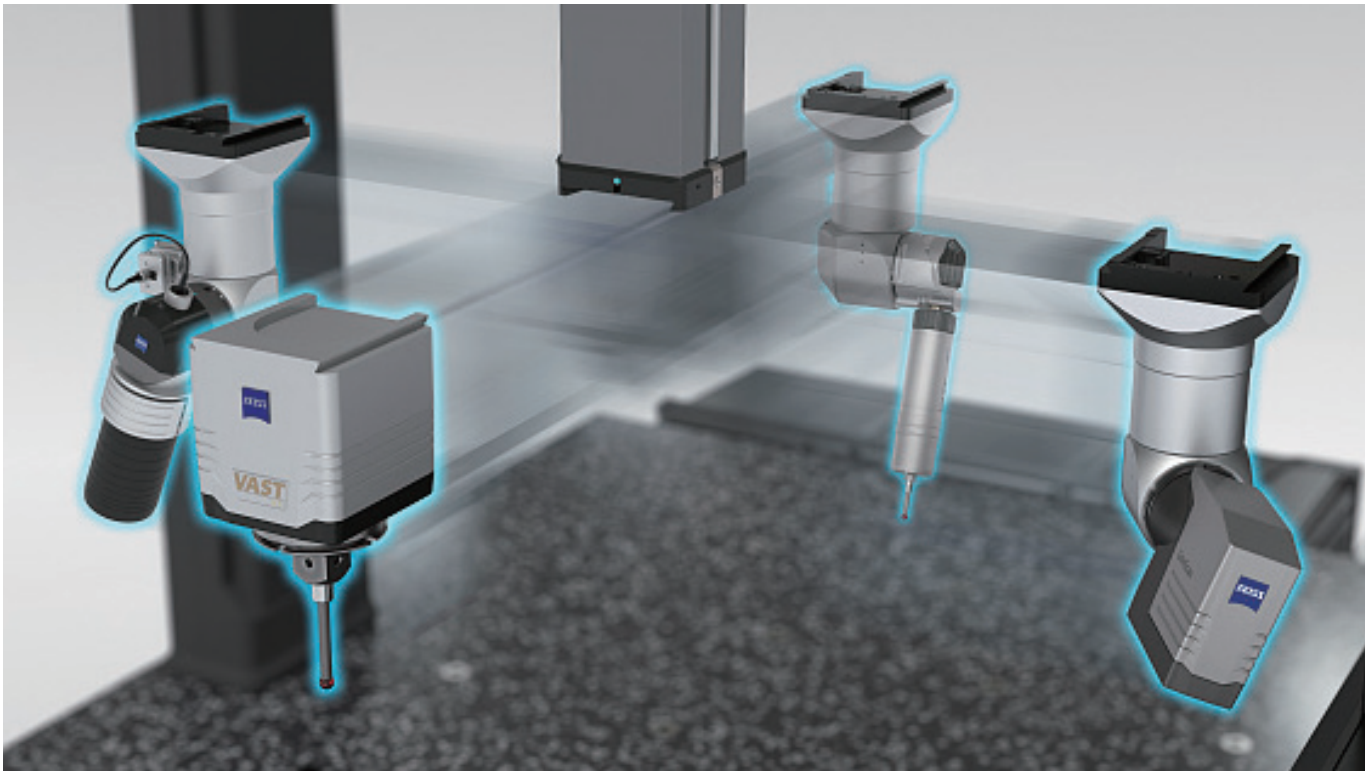
Automatic stylus change system (standard for aktive model)

Automatic stylus change system (optional for RDS model)

Automatic stylus change system ProMax E (optional)

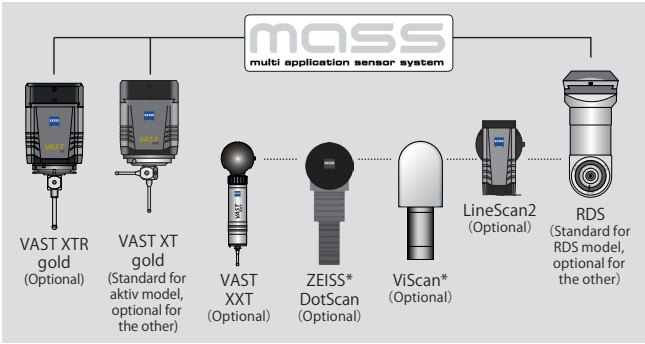
High Versatility

Combined use of multiple measurement sensors enabled Incorporating MASS technology enabling all kinds of contact and non-contact measurement



MASS (multi-application sensor system) technology enables mounting of diverse measurement sensors, allowing a single ZEISS CONTURA ® machine to meet a variety of measurement needs.As sensors can be retrofitted*, for example, you can suppress the initial cost by choosing the minimum necessary configuration "at the time of installation" and add sensors "in the future" when the need arises for new measurements. As such, you can take a flexible approach to choosing the measuring machine without trying to anticipate future measurement needs.

*Retrofitting of DotScan requires an option for retrofitting DotScan at the time of factory shipment.

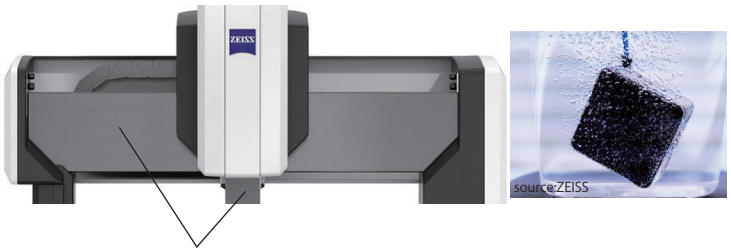


Rotary table for fast, accurate and low-cost measurement of intricately-shaped workpieces, such as gears and impellers (optional)

A rotary table option capable of performing 4-axis scanning measurement synchronizing four axes, i. e., three axes of the measuring machine and rotary axis of the rotary table.This option enables high-accuracy measurement of intricately shaped workpieces, such as gears and impellers. Moreover, with this option, a workpiece can be rotated so that the whole circumference of the workpiece can be measured with minimum stylus configuration.
This is a highly beneficial option in that it enables high-accuracy measurement of intricate shapes and reduces stylus cost as well as measurement time by reduction of stylus change frequency.

High Reliability

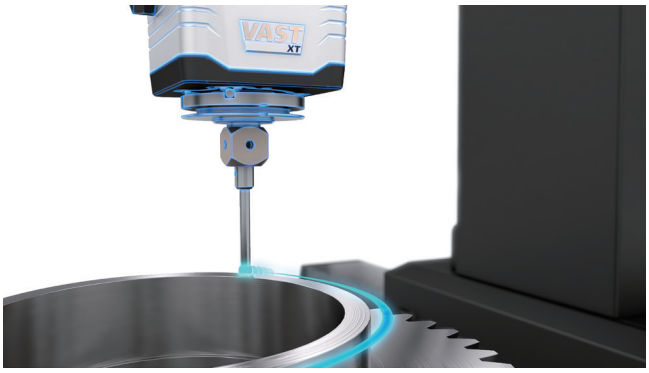
Use of highly durable materials for extended life and improved maintainability



DLC-coated guide

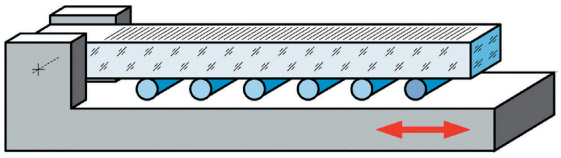
X- and Z-axis guides are coated with DLC (diamond like carbon) to increase the hardness and reduce the friction of the guide surfaces. By combining them with new porous air bearings resistant to micro scratches and dirt, unevenness of the sliding surface was prevented to reduce maintenance frequency and extend the life of the measuring machine.

Navigator function for high-accuracy, high-speed scanning measurement (when using VAST XT gold/XTR gold)



Navigator function is mounted for real-time correction of the stylus and measuring machine deformation caused by the force that changes in measuring operation (accelerations) in addition to the straightness of each axis, orthogonality, and stylus deflection. This superior technology can significantly enhance the accuracy in high-speed scanning measurement and enables speedy and reliable measurement.

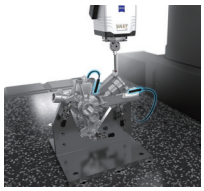
High resolution glass ceramic scale and floating method for scale retention to eliminate the impact of temperature changes



Fixed end Free support point by roller

High resolution 0.08μm scale made of glass ceramic with extremely low thermal expansion and contraction is mounted on each axis. The scale itself hardly expands or contracts. Moreover, it is retained in an original floating method so that guide expansion and contraction caused by temperature changes will not impact the scale.This eliminates the adverse effect of temperature changes on measurement results, improving the reliability of measurement.

Extended accuracy guarantee temperature range of 18 to 26℃ HTG type (optional)



Workpiece temperature sensor

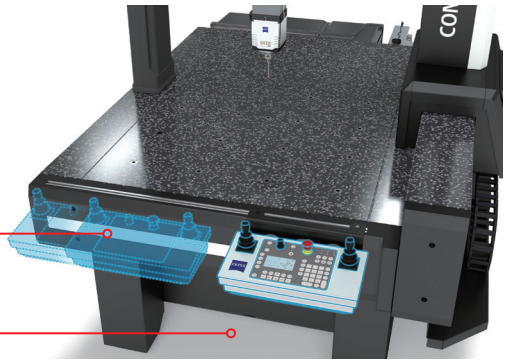
HTG (High Temperature Grade) type, which provides covering to the right Y-axis guide and table front surface to protect them from dust and impact of temperature changes, is available as an option. Combined with the temperature correction effect of workpiece temperature sensor included in this option, accuracy guarantee temperature range is extended from the normal 18-22 ℃ to 18-26℃ , which results in reducing the running cost for controlling the measuring lab temperature.

Excellent Usability

User-friendly design for easy operation in front of measuring machine

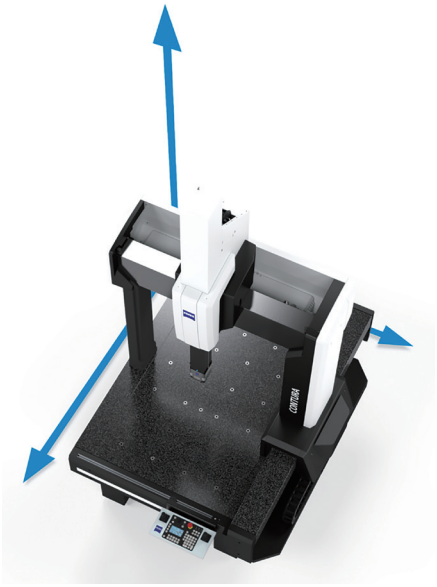
Operation box holder for placement of operation box during operation and CNC measurement

Foot space allowing operation close to the measuring machine without interference of the feet



Foot space is provided to the front surface of the base to prevent the operator's feet from interfering the operation in front of the measuring machine.Also, as a horizontally-sliding operation box holder is provided on the table front surface, it is not necessary to place the operation box within the measurement range of the table during CNC measurement, let alone during operation in front of the measuring machine, enabling the maximum utilization of the measurement range.

Small footprint with large measurement range



As the controller is mounted on the back of the machine, while maintaining a wide measurement range, the footprint of ZEISS CONTURA ® is significantly reduced, as compared to typical coordinate measuring machines with a controller separately located in the measuring mechanism or behind the machine.

Stylus change magazine enabling maximum utilization of measurement range ProMax E (optional)

When a typical stylus change magazine is used, because of the need to install the magazine within the measurement range, the size and measurable locations of the workpiece are restricted.
ProMax E, on the other hand, is installed outside of the measurement range, and it moves into the measurement range "only when the stylus is changed".It is a new-style change magazine that does not interfere with the measurement range or the space for workpiece loading and yet enables safe stylus change.

Specification

Model						ZEISS CONTURA®					
						7/7/6	7/10/6	9/12/8	9/18/8	12/18/8	12/24/8
Measuring range			X	(mm)		700		900		1200	
			Y	(mm)		700	1000	1200	1800	1800	2400
			Z	(mm)		600		800		800	
Measuring accuracy*1 *2	VAST XT gold VAST XTR gold (オプション)		Max. permissible error of length measurement	$E_{0, MPE}$, $E_{150, MPE}$	(μm)	1.5 + L/350 (1.5 + L/250)		1.6 + L/350 (1.6 + L/250)		1.9 + L/350 (1.9 + L/250)	
			Max. permissible limit of the repeatability range	$R_{0, MPL}$	(μm)	1.2		1.4		1.5	
			Max. permissible single-stylus form error	$P_{FTU, MPE}$	(μm)	1.5		1.7		1.8	
			Max. permissible scanning probing error	MPE_{THP}	(μm)	2.0 τ =40		2.5 τ =40		3.5 τ =40	
	VAST XXT		Max. permissible error of length measurement	$E_{0, MPE}$, $E_{40, MPE}$	(μm)	1.7 + L/350 (1.7 + L/250)		1.8 + L/350 (1.8 + L/250)		2.0 + L/350 (2.0 + L/250)	
			Max. permissible limit of the repeatability range	$R_{0, MPL}$	(μm)	1.7		1.8		1.9	
			Max. permissible single-stylus form error	$P_{FTU, MPE}$	(μm)	1.7		1.8		1.9	
			Max. permissible scanning probing error	MPE_{THP}	(μm)	2.7 τ = 50		2.8 τ = 50		3.6 τ = 50	
	ViSCAN (option)		Max. permissible error of length measurement	$E_{U(XY)}$	(μm)	10+L/350					
			Probing error of the imaging probe	PFV2D	(μm)	10					
	LineScan2 (option)	-8	Probing error	$MPE_{PF(OT)}$	(μm)	3.3					
			Dispersion on sphere	1 σ	(μm)	0.9					
		-25	Probing error	$MPE_{PF(OT)}$	(μm)	12					
			Dispersion on sphere	1 σ	(μm)	4					
		-50	Probing error	$MPE_{PF(OT)}$	(μm)	20					
			Dispersion on sphere	1 σ	(μm)	5					
		-100	Probing error	$MPE_{PF(OT)}$	(μm)	50					
			Dispersion on sphere	1 σ	(μm)	12					
	DotScan *3 (option)	1 mm	Max. permissible error of unidirectional length measurement	$E_{Uni:Tr:ODS,MPE}$	(μm)	1.7+L/350		1.8+L/350		2.0+L/350	
			Max. permissible probing size error (25 points)	PSize. Sph.1x25:Tr:ODS,MPE	(μm)	5					
		3 mm	Max. permissible error of unidirectional length measurement	$E_{Uni:Tr:ODS,MPE}$	(μm)	2.0+L/350		2.1+L/350		2.3+L/350	
			Maximum permissible probing size error (25 points)	PSize. Sph.1x25:Tr:ODS,MPE	(μm)	5					
		10 mm	Max. permissible error of unidirectional length measurement	$E_{Uni:Tr:ODS,MPE}$	(μm)	3.0+L/350		3.1+L/350		3.3+L/350	
				PSize. Sph.1x25:Tr:ODS,MPE	(μm)	5					
Measuring length scale						Glass ceramic scale					
Resolution					(μm)	0.08					
Table			Material			Gabbro					
			Usable width		(mm)	827		1027		1327	
			Usable depth		(mm)	1050	1350	1650	2250	2250	2850
			Height from floor to table surface		(mm)	700		700		700	
Workpiece			Height to stylus mounting surface (when VAST XT gold is mounted)		(mm)	716		917		917	
			Height to X guide bottom edge		(mm)	804		1004		1004	
			Max. loading weight		(kg)	730		1200		1200	
Guide system						Air bearing					
Driving speed			Joystick mode		(mm/sec)	0 to 70					
			CNC mode	Vector direction	(mm/sec)	Max. 475					
			Scanning speed (when using Navigator function)		(mm/sec)	Max. 150					
Driving acceleration				Vector direction	(mm/sec²)	Max. 1850					
Accuracy guarantee environmental temperature conditions *2			Environment temperature		(℃)	18 to 22 (18 to 26)					
			Temperature change		(℃ /day)	1.5					
					(℃ /hour)	1.0					
			Temperature gradient		(℃ /m)	1.0					
Air supply			Supply pressure		(MPa)	0.6 to 0.8					
			Consumption		(NL/min)	80 (Equipped with Air Saver function which reduces electricity consumption and running cost by auto-stop the compressed air supply during the machine is standby and auto-restart when joystick operation / CNC measuring)					
Power supply			Supply voltage		(V/%)	AC100 ± 10					
			Frequency		(Hz/%)	50/60 ± 3.5					
			Consumption		(VA)	800					
Dimensions / Weight			External dimension *2*4	Width	(mm)	1381		1581		1881	
				Depth	(mm)	1503 (1603)	1813 (1913)	2103 (2213)	2703 (2911)	2703 (2911)	3301 (3631)
				Height	(mm)	2658		3060		3060	
			Measuring part weight		(kg)	1200	1570	2300	2980	3380	4900
			Minimum ceiling height		(mm)	2858		3260		3260	
			Machine height at transport *5		(mm)	2348		2650		2650	2550

*1 The testing and evaluation methods for $E_{0, MPE}$, $E_{40, MPE}$, $E_{150, MPE}$ and $R_{0, MPL}$ conform to ISO 10360-2:2009(JIS B 7440-2:2013).
The testing and evaluation methods for $P_{FTU, MPE}$ conform to JIS B 7440-5: 2013 (ISO 10360-5: 2010).
The testing and evaluation methods for MPE_{THP} conform to JIS B 7440-4: 2003 (ISO 10360-4: 2000).
The above accuracy is the numerical value when used the following stylus. L (mm) represents an arbitrary measuring length.
VAST XT gold/VAST XTR gold … Tip diameter 8 mm, length 60 mm
VAST XXT …Tip diameter 3 mm, length 50 mm
*2 The value indicated with () is for HTG option specification.
*3 Afterward installation of DotScan requires DotScan basic package option when shipping from the factory.
*4 External view includes only measuring part (including controller at the back). PC rack (W × D × H: 800 × 700 × 700) is provided in addition to measuring part.
*5 When carrying-in the measurement machine, please confirm the height of the carry-in route in particular the frontage and height of the entrance etc. Height of opening needs to be actual delivery height plus approx. 200mm for the carriage to move each measurement machine.

Rotary table specification

Model		RT-RB-100
Resolution (sec)		0.0012
Rotary Table dimensions	Length (mm)	346
	Width (mm)	280
	Height (mm)	120
	Height including turntable(faceplate) (mm)	139
Turntable(faceplate)	Diameter (mm)	ϕ 300
Weight (kg)		36
	Weight including turntable(faceplate) (kg)	45
Maximum loading weight (kg)		100
Rotation accuracy	Positioning error Pw (sec)	± 1
	Positioning repeatability (sec)	± 0.5
	Axial runout fa (μm)	1
	Radial runout fr (μm)	1
	Axial tilt ft (μm)	1.4
Ambient temperature range (℃)		1 ～ 30

External view CONTURA